

VISUAL DISPLAY WALL MOUNTING APPARATUS

CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims the benefit of U.S. Provisional Patent Application Serial
5 No. 60/498,264, entitled "Visual Display Wall Mounting Apparatus" and filed August
26, 2003, which is incorporated by reference herein in its entirety.

FIELD OF THE INVENTION

The present invention is directed toward visual displays and in particular,
10 toward visual display wall mounting brackets.

BACKGROUND OF THE INVENTION

The existing visual display wall mounting brackets on the market are
expensive, very heavy and cumbersome to use. They do not allow the customer to
15 mount a thin television display (or monitor) to the wall with less than about two (2)
inches of clearance between the unit and the wall.

Most, if not all, of the current wall mount bracketry require the customer to
make some sort of final adjustment to lock them together once the visual display
mount bracketry and the wall mount bracketry are joined. This locking feature must
20 be activated in order to keep the set from falling off the wall. Also, some wall
mounting bracketry is made of welded subassemblies which are complicated to build
and expensive. Additionally, some have multiple pieces that the customer is required
to subassemble to the correct size before assembling to the visual display (or
monitor).

SUMMARY OF THE INVENTION

The present invention is a cost effective wall mounting apparatus for a visual
display. The wall mounting apparatus comprises two interlocking plates that are
configured to mount the visual display to a wall such that the bracketry provides a
30 gap between the wall and the visual display of less than about two (2) inches. One of
the plates is designed to be attached to the wall, while the other is affixed to the back
of the visual display. The visual display is mounted to the wall by hooking the two

plates together, such that the two interlocking plates contact each other in at least two places along the surfaces thereof.

BRIEF DESCRIPTION OF THE DRAWINGS

5 The invention is hereinafter described in detail with reference to the accompanying drawings, in which:

 FIGS. 1A-1D depict cross-sectional views of one embodiment of the interlocking brackets of the present invention showing a visual display being mounted to a wall;

10 FIGS. 2A-2D depict cross-sectional views of an alternate embodiment of the interlocking brackets of the present invention showing the visual display being mounted to the wall;

 FIGS. 3A-3D depict cross-sectional views of an alternate embodiment of the interlocking brackets of the present invention showing a visual display being mounted to a wall;

15 FIGS. 4A-4D depict cross-sectional views of an alternate embodiment of the interlocking brackets of the present invention showing a visual display being mounted to a wall;

 FIGS. 5A-5D depict cross-sectional views of an alternate embodiment of the interlocking brackets of the present invention showing a visual display being mounted to a wall;

20 FIGS. 6A-6D depict cross-sectional views of an alternate embodiment of the interlocking brackets of the present invention showing a visual display being mounted to a wall;

25 FIGS. 7A-7D depict front, back and side views of the interlocked brackets of the present invention; and

 FIG. 8 depicts an enlarged view of a portion of the interlocked brackets shown in FIG. 7B.

DETAILED DESCRIPTION

30 The present invention is a cost effective wall mounting apparatus for a visual display. The wall mounting apparatus comprises at least two interlocking plates that are configured to mount the visual display to a wall such that the bracketry provides a

gap between the wall and the visual display of less than about two (2) inches. One of the plates is designed to be attached to the wall, while the other is affixed to the back of the visual display. The visual display is mounted to the wall by hooking the two plates together, such that the two interlocking plates contact each other in at least two places along the surfaces thereof.

The interlocking plates should be formed of a material, such as for example metal (steel, aluminum (Al)) or plastic, with sufficient strength to support a load of up to about 200 pounds without deforming. The interlocking plates may be made using any suitable process such as for example sheet metal forming, roll forming, die casting and extrusion, among others.

Referring to FIGS. 1A-1D, the interlocking plates may be made from two stamped sheet metal parts. One interlocking plate 2 is designed to be mounted to the back of the visual display (television) and the other interlocking plate 4 is designed to be mounted to the wall (FIG. 1A). Interlocking plate 2 includes a portion 8 which extends a fixed distance away from the back of the visual display, that in conjunction with a portion 7 of interlocking plate 4 that also extends a fixed distance away from the wall, defines an air gap between the display and the wall of less than about two-inches when interlocking plate 2 is attached to interlocking plate 4. The portions 7, 8 may have the same or different lengths. Interlocking plate 2 also includes a hooking portion 10 that contacts an area of a surface of the portion 7 of interlocking plate 4 when interlocking plate 2 is attached to interlocking plate 4 (FIG. 1D). Interlocking plate 4 also includes a hooking portion 9 that contacts an area of a surface of the portion 8 of interlocking plate 2 when interlocking plate 2 is attached to interlocking plate 4 (FIG. 1D).

To mount the visual display to the wall, interlocking plate 2 is positioned against interlocking plate 4 (FIG. 1B). Gradually releasing the weight of the visual display attached to interlocking plate 2 (FIG. 1C) and letting gravity take over seats interlocking plate 2 on interlocking plate 4 (FIG. 1D) holding the visual display a fixed distance from the wall. The visual display is mounted to the wall by hooking the two interlocking plates 2, 4 together, such that the two interlocking plates 2, 4 contact each other in at least two places along the surfaces thereof (e.g., in FIG. 1D hooking portion 10 of interlocking plate 2 contacts an area of the surface of portion 7 and hooking portion 9 contacts an area of the surface of portion 8). Generous entry

clearances for the hooking portions 9, 10 make it easy to interlock the two plates 2, 4 together.

The interlocking plates 2, 4 allow the visual display to rotate until the bottom edge of the display hits the wall. This feature accommodates those who wish a small amount of down angle for their display. For those who wish to position the display parallel to the wall, bumpers, approximately the same thickness as the space gap between the display and the wall may be placed between the visual display and the wall at or near the bottom of the display.

For the embodiment depicted in FIGS. 1A-1D, portion 7 of interlocking plate 4 is flat, extending perpendicularly away from the wall. Alternatively, interlocking plate 4 may include an angled portion extending away from the wall and a flat portion extending away from the angled portion (FIGS. 3A-3D). Interlocking plate 4 may also alternatively include a flat portion, an angled portion and a backstop portion (FIGS. 2A-2D).

Referring to FIGS. 4A-4D, 5A-5D and 6A-6D, the interlocking plates 2, 4 may alternatively be configured to include elongate sections 15, 20, along which the plates 2, 4 may be further attached to the visual monitor and wall, respectively.

Referring to FIGS. 7A-7D, front, back and side views of interlocked plates are shown. As depicted plate 2 may be longer in length than plate 4 to permit side-to-side adjustment for the visual display. Additionally, referring to FIG. 8, end stops 30 on plate 2 prevent the visual display from sliding out of the bracket sideways.

Further, while the depictions shown illustrate only one set of brackets being used to affix the visual display to the wall, it is contemplated that more than one set may also be used.